

CLAIMS

WHAT IS CLAIMED IS:

- 5 1. A method for providing a hidden image within a substrate the method comprising embossing recesses on the substrate, the recesses form an at least one hidden image, whereby the at least one hidden image can be viewed with the use of at least one decoder.
2. The method of claim 1 further comprising the step of providing an image to be converted into the digital information to be used for engraving
10 protrusions onto an embossing platform member.
3. The method of claim 1 further comprising the step of engraving protrusions associated with digital information representing the at least one hidden image onto an embossing platform member.
4. The method of claim 1 further comprising the step of determining from
15 the digital information the location of each recess to be engraved unto an embossing platform member representing the at least one hidden image to be embossed on the substrate.
5. The method of claim 2 further comprising the step of converting the image provided into digital information comprising the locations on an
20 embossing platform member for creating protrusions, the conversion comprises selecting the features of the image located along predetermined lines or wave like lines representing the optical frequency to be used in the creation of the hidden image or the reverse optical frequency to be used in the creation of a decoder.
- 25 6. The method of claim 1 wherein the recesses are embossed on both sides of the substrate.
7. The method of claim 1 wherein the step of embossing comprises an at least one embossing platform member applying pressure on the substrate for creating the recesses thus forming the at least one hidden image.

8. The method of claim 1 wherein the hidden image comprises text or at least one animated figure or a combination thereof.
9. The method of claim 1 wherein the decoder is a flexible material embossed with an at least one set of lines for revealing the at least one hidden image formed by the recesses on the substrate.
10. The method of claim 1 wherein the substrate is a material having sufficient flexibility to be used in the process of embossing.
11. The method of claim 1 wherein the substrate any one of the following substrates: polymeric sheet, fabric, processed wood, metal sheet, or a composition of thereof.
12. The method of claim 1 wherein the recesses are about 1-50 microns in depth.
13. The method of claim 1 wherein the recesses are about 1-30 microns in diameter.
14. The method of claim 1 wherein the at least one hidden image is used for determining whether the substrate is original or approved.
15. The method of claim 1 wherein the at least one hidden image is used for revealing a message or an image.
16. The method of claim 1 wherein the at least one hidden image is used for determining the substrate's authenticity.
17. The method of claim 1 wherein the decoder is attached to the substrate.
18. The method of claim 3 wherein the embossing platform member comprise a steel or metal core having a thin plated layer of copper and chrome.
19. The method of claim 3 wherein the embossing platform member is in the form of a cylinder or a sleeve to be put on the cylinder or a plate.
20. The method of claim 3 wherein the step of engraving comprises engraving on the surface of the embossing platform member of a mirror hidden image to be embossed on the substrate.

21. The method of claim 3 wherein the step of engraving comprises providing protrusions unto the embossing platform member.
22. The method of claim 21 wherein the protrusions represent a mirror image of the optical frequency used in to emboss the at least one hidden image.
- 5 23. The method of claim 5 wherein the number of lines to be used in encoding of the at least one hidden image is about 1,000 lines per inch.
24. The method of claim 11 wherein the polymeric sheet includes poly vinyl chloride or nylon or cellophane a composition thereof.
- 10 25. A substrate comprising an embossed hidden image, the hidden image is embossed onto a substrate, the hidden image is created in association with an optical frequency not visible to the naked eye, the hidden image cannot be seen without the use of a decoder having a reverse optical
- 15 frequency.
26. The substrate of claim 25 wherein the substrate is a material having sufficient flexibility to be used in the process of embossing.
27. The substrate of claim 25 wherein the substrate is made of a polymeric sheet or metal sheet or processed wood or processed leather or a
- 20 composite material.
28. The substrate of claim 25 wherein the embossed hidden image comprises recesses in a depth of about 1-50 Microns.
29. The substrate of claim 25 wherein the embossed hidden image comprises recesses having a diameter of about 1-30 Microns at the upper surface of
- 25 substrate.
30. The substrate of claim 25 wherein the hidden image comprises text or at least one animated figure or a combination thereof.
31. The substrate of claim 25 wherein the substrate is any one of the following substrates: polymer, fabric, wood, metal, or a composition
- 30 thereof.

32. The substrate of claim 25 wherein the hidden image is used for determining whether the substrate is original or approved.
33. The substrate of claim 25 wherein the hidden image is used for revealing a message or an image.
- 5 34. The substrate of claim 25 wherein the hidden image is used for determining the substrate's authenticity.
35. The substrate of claim 25 further comprising a decoder attached thereto for revealing the hidden image.
- 10 36. A substrate comprising a decoder for viewing an embossed hidden image, the decoder comprises embossed or printed lines having a reverse optical frequency to the optical frequency used to create the hidden image embossed onto a substrate.
- 15 37. The substrate of claim 36 wherein the decoder is made of a polymer material.
38. The substrate of claim 36 wherein the decoder is made of a clear material allowing the placement of the decoder upon the substrate containing the hidden image so that when the decoder is placed in a predetermined angle the hidden image is revealed through the decoder.
- 20 39. The substrate of claim 36 further comprising a substrate comprising an embossed hidden image.